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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/080,305 | 02/22/2002 | John Huang | | 8365 |
| 7590 | 06/11/2004 | | | |
| | | | EXAMINER | |
| | | | MERCADO, JULIAN A | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1745 | |
| DATE MAILED: 06/11/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | |
|-----------------|--------------|
| Application No. | Applicant(s) |
| 10/080,305 | HUANG ET AL. |
| Examiner | Art Unit |
| Julian Mercado | 1745 |

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(e). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1,2 and 4-14 is/are rejected.
- 7) Claim(s) 3 and 11 is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date: ____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: ____ . | 6) <input type="checkbox"/> Other: ____ . |

DETAILED ACTION

Claim Objections

Claim 11 is objected to because of the following informalities:

- a. In claim 11 at line 2, it is suggested to change “controlled release material” to --controlled release agent-- to maintain consistency of the usage of the term.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-9 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawakami et al. (U.S. Pat. 6,040,087).

Regarding independent claim 1 and dependent claims 5-8, Kawakami teaches an anode of a first active material [101] and layer [102] which isolates the first active material from the electrolyte. (Figure 1) Kawakami discloses that absent of the layer [102], the active material [101] is oxidized. The layer [102] is specifically disclosed to suppress such oxidation. (col. 10 line 40-47) Thus, the layer [102] is considered to function in delaying the oxidation of the first active material. As to the layer [102] being a “controlled release agent”, the layer is considered

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to function in such regard by controllably releasing atomic hydrogen or hydrogen ions into the first active material [101]. (col. 10 line 27-33, also applies to dependent claim 13)

Regarding dependent claim 2, a second active material [103] is considered to read on the claimed initial-stage anode active material by virtue of its direct contact with the electrolyte. (col. 10 line 27 et seq., also applies to dependent claim 2) The first active material is magnesium, *inter alia*. (col. 8 line 47 et seq., applies to dependent claim 4) The second active material may be zinc, *inter alia*. (col. 16 line 45 et seq., applies to dependent claim 9)

With respect to dependent claim 14, a plurality of cells is shown in Figure 8. (col. 22 line 14 et seq.)

As to dependent claims 15 and 16 in which the electrolyte is free from a liquid during a cell storage period and actuating the cell upon addition of liquid water, this limitation is not given patentable weight as the limitation, interpreted by the examiner as a process-of-using feature, does not give breadth or scope to the product claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kawakami et al. as applied to claims 1, 2, 4-9 and 11-16 above.

As to dependent claim 10, this product-by-process limitation is not given patentable weight as the process limitation of coated or encapsulated by electroplating, etc. does not give breadth or scope to the product claim. Notwithstanding, the claimed product appears to be the same or similar to the prior art product insofar as having the controlled release agent coat the first anode active material. *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985). The examiner further notes that a vacuum deposition method encompassing PVD or CVD is also disclosed. (col. 13 line 47 et seq.)

With respect to dependent claims 11 and 12, as the controlled release agent is the same as claimed by applicant (nickel, *inter alia*, see col. 13 line 15 et seq.), it would naturally flow to have the same electromotive force as claimed.

Allowable Subject Matter

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record and to the examiner's knowledge do not teach or render obvious at least to the skilled artisan the instant invention wherein the electrochemical cell constitutes a metal-air battery. The examiner notes that Kawakami as relied upon in the pending prior art rejection(s) does not employ an oxygen electrode as claimed by claim 3 and as required by a metal-air cell.

Conclusion

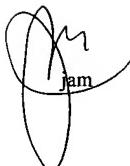
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schiffer et al. (U.S. Pat. 4,005,246) is cited to teach activation of a cell from a storage period by addition of liquid water.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700